

Comparison of Alternatives Natural Gas Exploration and Development

Topic	Alternative A <i>Current Mgmt</i>	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F <i>Preferred Alternative</i>
Spacing Requirements	The BLM would be consistent with the State spacing requirements and current Board Orders for Leroy and Sawtooth Mountain Gas Fields. Currently one well is allowed per half section within the Leroy Gas Field and one well per section is allowed within the Sawtooth Mountain Gas Field. Each field contains multiple exceptions for additional wells to be drilled per half section/sections or location exceptions. Changes, exceptions, or modifications are allowed to maximize the extraction of the natural gas resource.	The BLM would limit spacing to no more than four well locations/sites per section, subject to other siting criteria. Changes, exceptions, or modifications could be allowed in the interest of maximizing the extraction of the natural gas resource.	The BLM would be consistent with the State spacing requirements and current Board Orders for Leroy and Sawtooth Mountain Gas Fields. Currently one well is allowed per half section within the Leroy Gas Field and one well per section is allowed within the Sawtooth Mountain Gas Field. Each field contains multiple exceptions for additional wells to be drilled per half section/sections or location exceptions. Changes, exceptions, or modifications could be allowed to maximize the extraction of the natural gas resource.	The BLM would be consistent with the current State spacing requirements and current Board Orders for Leroy and Sawtooth Mountain Gas Fields. One well is allowed per half section within the Leroy Gas Field and one well per section is allowed within the Sawtooth Mountain Gas Field. Each field contains multiple exceptions for additional wells to be drilled per half section/sections or location exceptions. No changes, exceptions, or modifications would be allowed.	The BLM would reduce spacing in specific areas where necessary from 2 wells per section to 1 well per section. Changes, exceptions or modifications would be allowed.	The BLM would limit spacing to no more than four well locations/sites per section, subject to other siting criteria. Changes, exceptions, or modifications could be allowed in the interest of maximizing the extraction of the natural gas resource, while minimizing impacts to sensitive areas. <i>(Dale to rewrite Alternative F as per 4/21/04 team meeting notes)</i>
Drilling Operations	Drilling operations would follow standard operating procedures.	Only the minimal amount of surface disturbance would be permitted for drilling and production phases. The disturbed area would confine the operation to an acceptable (safe) area/space. The goal is to achieve a desired effect on the land to no impact, or use low impact drilling technology, develop multiple wells from one location or staying away from trouble or problem areas. This would include the access to a drilling site.				Only the minimal amount of surface disturbance would be permitted for drilling and production phases. The disturbed area would

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						confine the operation to an acceptable (safe) area/space. The goal is to achieve a desired effect on the land to no impact, encourage low impact drilling technology, develop multiple wells from one location or staying away from trouble or problem areas. This would include the access to a drilling site.
Administrative Access on Existing and New Resource Roads Used for Natural Gas Operations	Access on resource roads with no restrictions.		Restrict travel on identified designated roads to the minimal vehicle needed for the job. Due to resource issues, time restrictions may be applied to site visits.			Restrict travel on identified designated roads to the minimal vehicle needed for the job. Due to resource issues, time restrictions may be applied to site visits.
Conditions of Approval						
<i>Recreation Sites</i>	Surface use would be restricted 300 feet from developed recreation areas and undeveloped recreation areas receiving concentrated public use.	No surface occupancy within 300 feet of developed recreation areas and undeveloped recreation areas receiving concentrated public use.	No surface occupancy within the line of sight or sound or 300 feet, whichever is closer. Work over type of operations, would be limited to weekdays only, except for	No surface occupancy within the line of sight or sound or 300 feet, whichever is closer. For work over type of operations, like well fracing or maintenance, would be limited to Tuesdays, Wednesdays and Thursdays.		No surface occupancy within the line of sight or sound or 300 feet 90 meters , whichever is closer. Work over type of operations, would be limited to weekdays only,

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			emergency situations when operations would be allowed.			except for emergency situations when operations would be allowed.
<i>Pipelines</i>	The placement and construction of pipelines would follow standard operating procedures including cross-country pipelines.		Require pipelines to stay within existing disturbance or least intrusive disturbance.	Require pipelines to stay within existing disturbance or access roads.		Require pipelines to stay within existing disturbance or least intrusive disturbance.
<i>Reservoirs, Intermittent, Ephemeral, Perennial Streams, Riparian/Wetland Areas</i>	No surface disturbance within 500 feet of reservoirs, intermittent, ephemeral, and small perennial streams. Surface disturbance restricted within 1000 feet of riparian and wetland areas.	No surface disturbance within 1000 feet, if such activity has an adverse affect.	No surface disturbance within 1320 feet (¼ mile).			No surface disturbance within 500 feet 150 meters of reservoirs, intermittent, ephemeral, and small perennial streams. Surface disturbance restricted within 1000 feet 300 meters of riparian and wetland areas.
<i>Soils</i>	Surface disturbance is restricted on slopes over 30% or on slopes over 20% with extremely erodable and/or slumping soils. Under some current leases this requirement does not apply.	Slopes over 30% or slopes over 20% that are extremely erodable and/or slumping soils require an approved engineering and reclamation plan.				Surface disturbance is restricted on slopes over 30%, or on slopes over 20% with extremely erodable and/or slumping soils, and requires an approved reclamation and engineering plan.

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Water Disposal	Water disposal would follow standard operating procedures.	Size pits according to water production with berms into the pit. All containment systems would require wildlife escape ramps where necessary. For wells in the Monument, only two trips per month would be authorized to transport water off site. Exceptions would be considered on a case-by-case basis. The operator has the option to dispose the water via a pipeline, disposal pits including tanks, or dispose in a water disposal well if above option is not viable.		Size pits according to water production with no berms into the pit (vertical sides). All containment systems would require wildlife escape ramps. For each well there would be a limit of no more than 5 barrels of water per day. For wells in the Monument, no water transport via tanker. The operator has the option to dispose the water via a pipeline, disposal pits including tanks, or dispose in a water disposal well if above option is not viable.		Size pits according to water production with berms into the pit. All containment systems would require wildlife escape ramps and/or netting where necessary. For wells in the Monument, only two trips per month would be authorized to transport water off site. Exceptions would be considered on a case-by-case basis. The operator has the option to dispose the water via a pipeline, disposal pits including tanks, or dispose in a water disposal well if above option is not viable.
General Production Facilities and Equipment	Production facilities and equipment would follow standard operating procedures.	Utilize the Best Available Control Technology (BACT) as a minimum standard on all gas compressors for noise and nitrogen oxide emissions. Large gas compressors or pumping units (long-term noise producers) would not be allowed on public land. The following infrastructure would be allowed: <ul style="list-style-type: none"> • Fencing • Meter/Well Sheds • Risers • Well Head Equipment • Water Disposal Pits 				Utilize the Best Available Control Technology (BACT) as a minimum standard on all gas compressors for noise and nitrogen oxide emissions. Large gas compressors or pumping units (long-

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						<p>term noise producers) should be located outside the Monument, but if they must be located within the Monument, BACT and Best Management Practices would be followed. The following infrastructure would be allowed:</p> <ul style="list-style-type: none"> • Fencing • Meter/Well sheds • Risers • Well Head Equipment • Water Disposal Pits • Netting
Seismic	All types of seismic operations would be allowed consistent with the Interim Guidance for the Monument.		Vehicle activity would be restricted to designated roads; exceptions would be authorized on a case by case basis dependent upon degree of data needed to identify the resource and the operator's ability to	Only helicopter supported seismic activities would be allowed in specific areas. Gravitation methods would be allowed on designated roads.		Vehicle activity would be restricted to designated roads; exceptions would be authorized on a case-by-case basis dependent upon degree of data needed to identify the resource and the operator's ability to

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			mitigate surface disturbance.			mitigate surface disturbance. No surface blasting would be allowed. Sensitive areas would require helicopter support.